MiLAN™
TECHNOLOGY
A Division of Digi International

User's Manual

MIL-S2612, 2-port 100BASE-FX Module (ST)

MIL-S2613, 2-port 100BASE-FX Module (SC)

MIL-S2614, 2-port 100BASE-FX Module (MT-RJ)

MIL-S2615, 2-port 100BASE-FX Module (VF-45)

MIL-S2622, 4-port 100BASE-FX Module (ST)

MIL-S2623, 4-port 100BASE-FX Module (SC)

MIL-S2624, 4-port 100BASE-FX Module (MT-RJ)

MIL-S2625, 4-port 100BASE-FX Module (VF-45)

MIL-S3630, 8-port 10/100BASE-TX Module (RJ-45)

MIL-S6603SX, 1-port 1000BASE-SX Module (SC)

MIL-S6603LX, 1-port 1000BASE-LX Module (SC)

1. 8 ports 10/100Base-TX Module

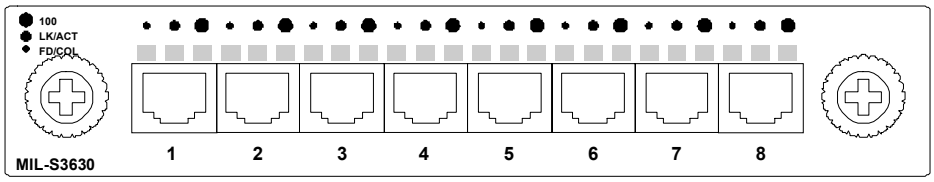

Figure 1. *Front Panel*

When installed into a Switch hub, the 10/100Base-TX Module provides 8 10/100Mbps Switch ports which can connect to 10Mbps or 100Mbps hub or end station.

1-1. 8 Ports 10/100Base-Tx Module Features

- ✧ 8 10/100Base-TX N-Way Switch ports.
- ✧ Conforms to IEEE 802.3, IEEE 802.3u and IEEE 802.3x standards
- ✧ Store and forward switch architecture for abnormal packet filtering
- ✧ Support for half and full duplex on all ports
- ✧ Backplane up to 2.4Gbps
- ✧ 2M memory Buffer support
- ✧ Automatic address learning with 12K address entry storage
- ✧ Filtering and forwarding rate of 14,880~148,800 packets per second
- ✧ DIP Switch for decision connection mode with other network devices

1-2. DIP Switch with Link Mode

The 8 port 10/100Base-TX module provides dip switch for 1 to 4 port to adjust link mode with other network devices. Another 4 ports use auto-negotiation protocol only. There are three type of link mode can be chosen, Auto-negotiation, 100Mbps/Full duplex and 10Mbps/Full duplex.

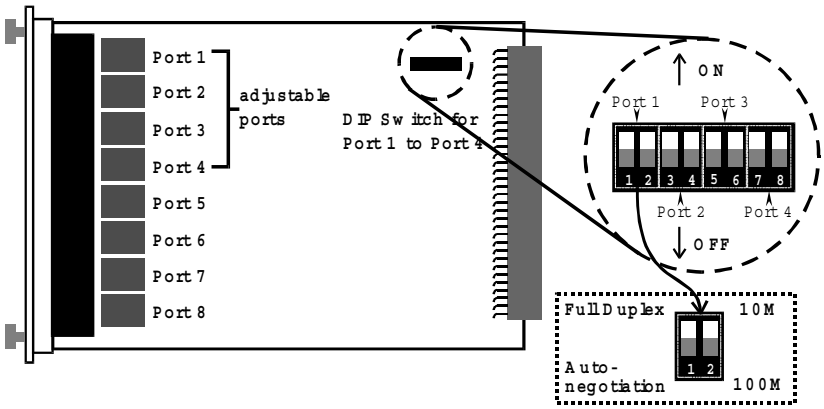

Figure 2. *Dip switch location and mode settings*

If you adjust to auto-negotiation, then the DIP for 100Mbps and 10Mbps is not effective. If you adjust to Full duplex, then the DIP for 100Mbps and 10Mbps is effective.

The following Table 1. lists the ports' operating modes based on the DIP switch position.

	PORT 1		PORT 2		PORT3		PORT4	
SW	1	2	3	4	5	6	7	8
ON	Full	10M	Full	10M	Full	10M	Full	10M
OFF	Auto	100M	Auto	100M	Auto	100M	Auto	100M

Table 1. *8 Ports 10/100Base-TX Module DIP switch functions*

1-3. LED Descriptions

There are three LED indicators for each of the RJ-45 LAN connection ports. If there is no connection to a port, the corresponding LED indicators are not lit.

- **100Mps** This LED indicator is green when the corresponding port is connected to a 100Mbps device. This LED indicator is not lit when the corresponding port is connected to a 10Mbps device.

- **Link/Activity**. This LED indicator is green when there is a connection secured to a device (a link) to the corresponding port. The LED indicator blinks when there is a transmission of data (activity) taking place at the corresponding port.

- **Duplex Mode/Collision**. This LED indicator is orange when the corresponding port is operating in Full Duplex mode. When the corresponding port is operating in Half Duplex, the LED indicator is not lit. When collisions are occurring at the corresponding port, the LED indicator blinks.

2. Two ports 100Base-FX Fiber Module

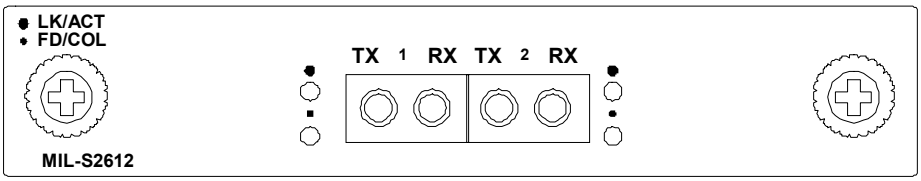

Figure 3. *2 port 100Base-FX Module Front View*

When installed into a Switch hub, this Module provides a 100Mbps Fast Ethernet fiber port which can be used to:

- Connect the Switch to the backbone of your network; that is, to a basement switch, hub or router

- Connect the Switch to a 100Mbps server or end-station

2-1. Two ports 100Base-FX Fiber Module Features

✧ Conforms to IEEE 802.3u Fast Ethernet standard

✧ Support for SC, ST, MT-RJ, VF-45 fiber connectors (optional)

✧ Supports half and full duplex modes via DIP switches

✧ Store-and-forward switch architecture for abnormal packet filtering

✧ 2 switching 100Mbps Fiber Ethernet ports

- ✧ Backplane up to 2.4Gbps
- ✧ Automatic address learning with 12K address entry storage
- ✧ Filtering and forwarding rate of 148,800 packets per second
- ✧ 100Base-FX uses 62.5/125 micron multi-mode fiber

2-2. DIP Switch with Link Mode

An ST/SC/MT-RJ/VF-45 connector provides the link to the multi-mode fiber cabling or single-mode fiber cabling, and two LED indicators show the status of the Module at-a glance. A DIP-switch sets the operating mode to half-duplex or full-duplex (default).

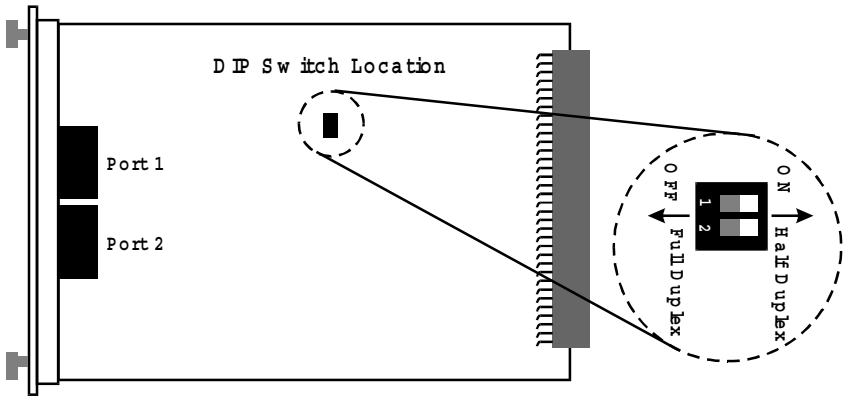

Figure 4. *Dip switch location and mode settings*

The following Table 2. lists the ports' operating modes based on the DIP switch position.

	PORT 1	PORT 2
SW	1	2
ON	Half-Duplex	Half-Duplex
OFF	Full-Duplex	Full-Duplex

Table 2. *Two ports 100Base-FX Fiber ModuleDIP switch functions*

2-3. LED Descriptions

There are two LED indicators for each of the Fiber connection ports. If there is no connection to a port, the corresponding LED indicators are not lit.

- **Link/Activity**. This LED indicator is green when there is a connection secured to a device (a link) to the corresponding port. The LED indicator blinks when there is a transmission of data (activity) taking place at the corresponding port.
- **Duplex Mode/Collision**. This LED indicator is orange when the corresponding port is operating in Full Duplex mode. When the corresponding port is operating in Half Duplex, the LED indicator is not lit. When collisions are occurring at the corresponding port, the LED indicator blinks.

3. Four Ports 100Base-FX Fiber Module

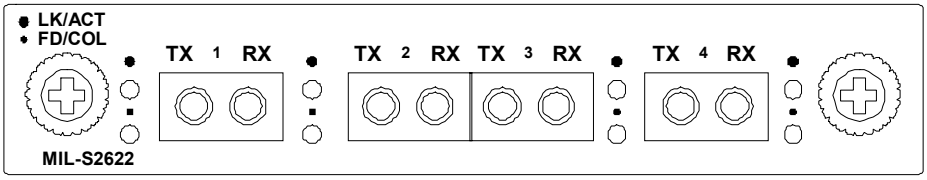

Figure 5. *4 port 100Base-TX/FX Front View*

When installed into a Switch hub, this Module provides 4 x 100Mbps Fast Ethernet fiber ports which can be used to:

- Connect the Switch to the backbone of your network; that is, to a basement switch, hub or router.
- Connector the Switch to a 100Mbps server or end station.

3-1 Four ports 100Base-FX Fiber Module Feature

- ✧ Conforms to IEEE 802.3u Fast Ethernet standard
- ✧ Support SC, ST, MT-RJ, VF-45 fiber connector (optional)
- ✧ Support half and full duplex via DIP switches
- ✧ Store-and-forward switch architecture for abnormal packets filtering
- ✧ Backplane up to 2.4Gbps
- ✧ Automatic address learning with 12K address entry storage
- ✧ Filtering and forwarding rate 148,800 packets per second for 100Mbps
- ✧ 100Base-FX uses 62.5/125 micron multi-mode fiber

3-2. DIP Switch with Link Mode

An ST/SC/MT-RJ/VF-45 connector provides the link to the multi-mode fiber cabling or single-mode fiber cabling, and two LED indicators show the status of the Module at-a glance. A DIP-switch sets the operating mode to half-duplex or full-duplex (default).

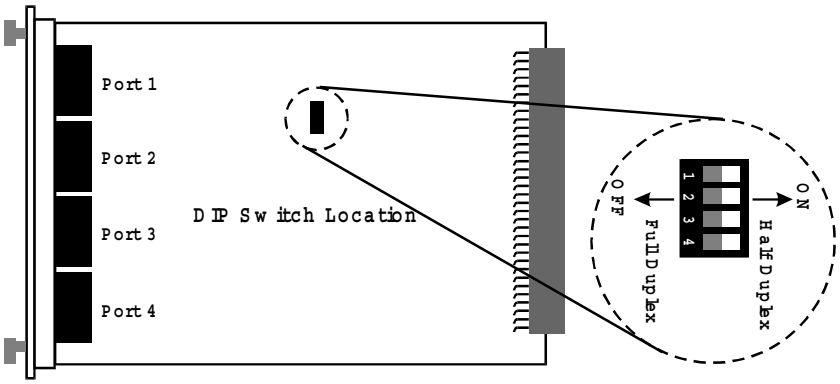

Figure 6. *Location and setting duplex mode*

The following Table 3. lists the ports operating modes based on the DIP switch position.

	PORT 1	PORT 2	PORT3	PORT4
SW	1	2	3	4
ON	Half-Duplex	Half-Duplex	Half-Duplex	Half-Duplex
OFF	Full-Duplex	Full-Duplex	Full-Duplex	Full-Duplex

Table 3. *Four ports 100Base-FX Fiber Module DIP switch functions*

3-3. LED Descriptions

There are two LED indicators for each of the Fiber connection ports. If there is no connection to a port, the corresponding LED indicators are not lit.

- **Link/Activity**. This LED indicator is green when there is a connection secured to a device (a link) to the corresponding port. The LED indicator blinks when there is a transmission of data (activity) taking place at the corresponding port.

- **Duplex Mode/Collision**. This LED indicator is orange when the corresponding port is operating in Full Duplex mode. When the corresponding port is operating in Half Duplex, the LED indicator is not lit. When collisions are occurring at the corresponding port, the LED indicator blinks.

4. 1000Base-SX/LX Fiber Module

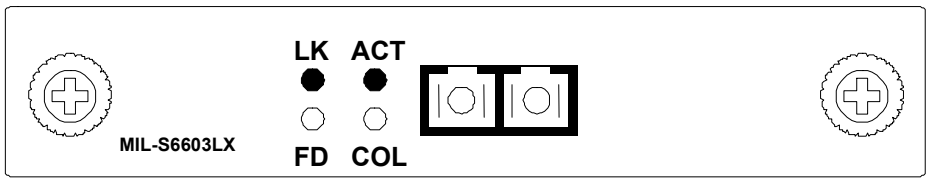

Figure 7. *1000Base-SX/LX Front View*

When installed into a Switch hub, the 1000Base-SX/LX Module provides 1 Gigabit Ethernet ports which can connect the Switch to a Gigabit Backbone Switch or Server with Gigabit NIC.

1000BASE-SX

- In Multimode, the fiber optic segment cannot exceed 220m(62.5/125μm) or 500m(50/125μm) in length.

1000BASE-LX

- In Multimode, the fiber optic segment cannot exceed 550m(62.5/125μm) or 550m(50/125μm) in length. In single mode the fiber optic segment cannot exceed 10km(9/125μm).

4-1. 1000Base-SX/LX Fiber Module Features

✧ Conforms to IEEE 802.3z draft 4.2 and 802.3x standard

✧ 1x1000Base-SX/LX Ethernet Port

- ✧ 3M memory buffer support
- ✧ Standard auto-negotiation for speed, duplex mode and flow-control for MII and GMII PHYs
- ✧ Backpressure option and Limit4 option for half duplex
- ✧ Automatic address learning with 12K address entry storage

4-2. DIP Switch with Link Mode

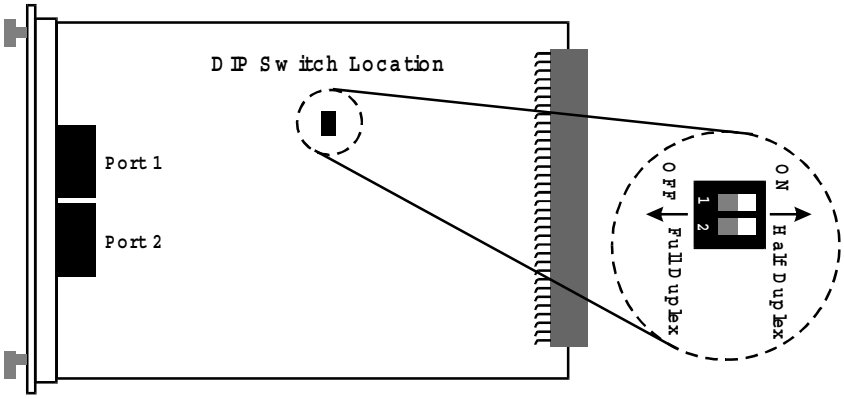

Figure 8. *Location and setting duplex mode*

If you adjust to Enable N-Way, then the DIP for Half-Duplex and Full-Duplex is not effective. If you adjust to Disable N-Way, then the DIP for Half-Duplex and Full-Duplex is effective.

The following Table 4. lists the ports' operating modes based on the DIP switch position.

	Gigabit Port	
SW	1	2
ON	Disable N-way	Half Duplex
OFF	Enable N-way	Full Duplex

Table 4. *1000Base-SX/LX Fiber Module DIP switch functions*

4-3. LED Descriptions

There are four LED indicators for one Gigabit Fiber connection ports. If there is no connection to a port, the corresponding LED indicators are not lit.

- **Link/Activity**. This LED indicator is green when there is a connection secured to a device (a link) to the corresponding port.
- **Activity** . This LED indicator blinks green when there is a transmission of data (activity) taking place at the corresponding port.
- **Duplex Mode**. This LED indicator is orange when the corresponding port is operating in Full Duplex mode. When the corresponding port is operating in Half Duplex, the LED indicator is not lit.
- **Collision**. This LED indicators blinks orange when collisions are occurring at the corresponding port.